Pest Update (August 11, 2010)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insect from other states. If you live outside of South Dakota and have a question, please send a digital picture of the pest or problem instead. **Walnut samples may not be sent in from any location – please provide a picture instead**.

Available on the net at:
http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx

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Current concerns

The concern across many areas of the state, particularly the southeast, is the continual flooding. Many tree species can withstand short periods of flooding during the growing season but if the flooding persists for a week or more, often the tree will begin show premature fall color, either red or yellow, on the leaves. These leaves will then drop and if the flooding continues for a longer time period the tree may suffer dieback and eventual death. The species that are most sensitive to flooding are typically upland species, those trees that naturally occur in higher well-drained soils. Some more common members of this group include sugar maple, black walnut and black cherry.

I stopped at a windbreak last week where black cherry was planted, one of my favorite trees – as long as it is not near horses and it is on well-drained soils. Black cherry as with most Prunus species is intolerant of even saturated soil conditions and as little as a week of wet soils during the growing season can result in symptoms of decline. The row of cherries looked fine except for a few in a low area.

Most conifers, except American larch, are also sensitive to growing in poorly drained or wet soils. Colorado blue spruce, one of the most planted evergreens, has been seriously affected by the flooding in our state. Blue spruces that are planted in soils that have stayed wet into the summer are now exhibiting red or yellow needles, usually the two year old needles, and some of these needles are now being shed. Normally spruce will retain its needles for as long as five to seven years but now the loss of even the two-year old needles is leaving these trees looking thin and open.

Unfortunately there is not much that can be done about trees in flooded areas. Many of these trees may not survive and removal this fall might be the best option. Spruce that still have healthy current year needles, normal color and length, may survive, though their growth next year will be much reduced. Deciduous trees often survive the affects of flooding better than evergreens but if there are many dead branches this summer the tree may also need to be removed.

Information you can use

Soil testing before planting windbreaks. Nathan, one of the Department of Agriculture Service Foresters and I were looking a property down near Platte last week. The landowner provides us with the soil test information and most was what you would expect – high pH, high potassium as examples, but what was interesting was the phosphorus was very low only 3 ppm! Generally the levels I see in the state are closer to 50 ppm or even higher in urban soils (probably due to the amount of fertilizer being applied). Trees, particularly seedlings, need about 30 to 60 ppm for good growth. Phosphorus does not move readily in the soil, even sandy soils, so it is best to incorporate it at planting and once adequate levels are achieved, no additional phosphorus will need to be added for at least many years, if ever in the life of the planting. I have seen several samples in the southeastern part of the state show very low phosphorus levels so it probably should be checked before planting trees. Finally phosphorus should never be added without first checking if the soil is deficient in this element. Excessive amounts of phosphorus can interfere with the uptake of other elements, including nitrogen and some microelements, and lead to reduced growth. This is just another good example why a soil test should be done before a windbreak is planted.

E-samples

I received this excellent picture of oystershell scales on a quaking aspen tree.

This is a common scale in our state and attacks a wide range of hosts including aspen, ash, cotoneaster and lilac. The oystershell scale is known as an armored scale; it produces a hard shell and does not excrete honeydew, a sticky substance, as do the soft scales. There is only one generation a year of this scale. It overwinters as an egg (under dead mom's shell, how pleasant) and hatches as a crawlers in late May or early June, about the time common lilac is in bloom. The crawler moves about the bark for a week or so, settles in and molts to become a legless adult who feeds sap from the tree. The adults die in late summer or early fall. Scale populations can look larger than they really are since the older dead scales will remain affixed to the trunk for many years. The best control is treating the crawlers during that one week they are vulnerable to spray with carbaryl and horticultural oils being some of the most

common pesticides used for control. Aspen are sensitive to many liquid formulations of insecticides and it is usually a good idea to “test” the chemical on a branch or two and wait a couple of days before deciding to treat the entire tree.

Samples received

Brown County **Why are this spring-planted spruce dying? Some spruce right next to them are thriving**.

The blacked roots you observed on the sample plants is due to the improper planting depth. I noted that the soil line was far above the collar on these seedling trees. Planting too deep restricts oxygen to the lower stem and root system resulting in dying roots – many of these were already black and crisp – yellowing foliage and stunted growth or death. Even when planting seedlings it is far wiser to error on too shallow of planting rather than too deep.

Codington County **What is causing the banding on the pine needles and the tip has been hollowed out by an insect.**

The banding on the needles is dothistroma needle blight and the insect gallery near the end of the shoot was created by a tip moth. Dothistroma is a common needle blight on pines (though often misidentified – needle banding can be due to many other stress agents). The best control of this fungal disease is two applications of a copper containing fungicide, the first one as the new growth expands and the second in late June. This will not cure the problem but reduce the severity of the disease. Applications may have to be repeated in subsequent years.

The tip moth, based on the gallery construction, was most likely a species of *Rhyacionia*, also known by Nantucket, Southwestern or Western pine tip moth. The insects overwinter as pupae and the adults are out about the time the new growth is expanding. The eggs are laid on this new growth and the newly hatched larvae mine the terminal bud as well as the new shoot. This feeding results in curled and dried shoots. One of the easiest means of controlling the insect is to apply an insecticide that contains acephate as the active ingredient in the spring when the new shoots are expanding but before the attached needles are fully developed.

Hand County **Can you identify this tree and tell me what is causing the foliage to turn brown and grey?**

This is a Rocky Mountain juniper (*Juniperus scopulorum*) and the problem is phomopsis twig blight. The second juniper sample submitted also had the same twig blight. Phomopsis needs to be confirmed with a sample but the general symptoms are browning of the new foliage in early summer and this foliage turned gray and crisp by this time of year. Kabatina is another juniper twig blight fungus but produces symptoms in late spring while phomopsis occurs in the summer (there are also difference in the fruiting structures, but that is easier to determine in the lab). Control of the phomopsis twig blight is achieved

through repeated applications of a copper-containing fungicide beginning in mid-May and continuing every two weeks until the weather turns dry.

Pennington County The maple sample is being checked for signs of the disease, should be about a week.

Perkins County **What is wrong with this apple and the cotoneaster hedge?**

As we suspected, this is the bacterial disease fire blight. The best means of managing the disease is to prune out any infected shoots – those with wilting leaves that are discolored. My recommendation for cotoneaster is to prune it back to within 3 inches of the ground this fall, after the leaves drop, and usually the plant recovers next spring and the new growth is free of the disease. The apple should have infected branches pruned back to the attached limb or trunk being sure to make proper pruning cuts. Also be sure to spray the pruning tools with Lysol Disinfectant between cuts to avoid spreading the disease further.

Sully County **What is this? It was picked off a plum tree.**

These are actually plums infected with a disease called plum pockets caused by a *Taphrina* fungus. It is a common disease of plum resulting in spongy hollow fruit that hardens as the season progresses. It is also a tough disease to control. The treatment is an application of lime sulfur made in the spring just before the buds swell. Applications made as the leaves are coming out can actually damage the foliage. There has also been some success with applying lime-sulfur in the fall, after leaf drop, to reduce the overwintering population and this might be a good idea to try. Be sure to thoroughly cover all the buds with the spray regardless of when the application is made.